

28171

S/145/61/000/005/005/009

D221/D306

Consideration of variable loads ...

the cotangent of angle of the inclination between the endurance curve and the horizontal axis. A clearer notion on the "relief" of surface which is formed by values of a is obtained from a special graph, shown in Fig. 8. This is plotted for steel CT 45 (ST 45), and for different combinations of $\sigma_{\max}/\sigma_{-1}$ and $\sigma_{\min}/\sigma_{-1}$. Analysis of data indicates that the characteristic of a decreases with the rise of ultimate strength of steel. The relationship is involved. Simplification in calculations is achieved by assuming $a = 1$. This results in 4 % errors for "soft" steels and 5 % for hard materials. It appears that in the case of variable amplitude of stresses, the continuous limit of endurance rises with respect to the maximum stress, or a sharp bend of fatigue curves takes place when a greater number of load cycles will be required for the destruction of the component. Consequently, prior to the accumulation of an adequate amount of experimental data, it is necessary to determine the equivalent number of cycles by assuming $a = 1$, and excluding

$M_{\min} \frac{\sigma_{\min}}{\sigma_{\max}} < 0.3$ from calculations. A numerical example is given.

Card 5/8

2817

S/145/61/000/005/005/009

D221/D306

Consideration of variable loads ...

as an illustration. There are 8 figures, 1 table and 4 Soviet-bloc references.

ASSOCIATION: MVTU im. N.E. Bauman; VNIIPTMASH

SUBMITTED: December 15, 1960

Card 6/6

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4

TIMOSHUK, L.T.; KULIKOV, A.P.; KONOVALOV, L.V.; SHUVALOV, S.A.

Parameter "a" as characteristic of metal resistance to overloading.
Sbor. trud. TSNIIChM no.24:349-369 '62. (MIRA 15:6)
(Steel--Testing) (Strains and stresses)

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4"

IVANOV, M.N., doktor tekhn.nauk, prof.; SHUVALOV, S.A., kand.tekhn.nauk,
dotsent; ARTANOV, A.K., inzh.

Undulating gears. Izv.vys.ucheb.zav.; mashinostr. no.8:53-69
'63. (MIRA 16:11)

1. Moskovskoye vyssheye tekhnicheskoye uchilishche imeni Baumana.

RESHETOV, Dmitriy Nikolayevich, doktor tekhn. nauk, prof.; GUDOLIN, Viktor Leonardovich, kand. tekhn. nauk, dots.; DROZDOV, Nikolay Aleksandrovich, kand. tekhn. nauk, dots.; NIKIFOROV, Vladimir Vasil'yevich, kand. tekhn. nauk; SHUVALOV, Sergey Arsen'yevich, kand. tekhn. nauk; KUPERSHMIDT, L.S., red.

[Laboratory manual on the course "Machine parts"] Laboratornye raboty po kursu "Detali mashin. Moskva, Izd-vo "Vysshiaia shkola," 1964. 106 p. (MIRA 17:7)

1. Kafedra "Detali mashin" Moskovskogo vyschego tekhnicheskogo uchiliishcha imeni N.Ye.Baumana (for all except Kupershmidt).

SHUVALOV, S.A., kand. tekhn. nauk, dotsent

Graphicanalytical analysis of the geometry of engagement in a
wavy gear transmission. Izv. vys. ucheb. zav.; mashinostr. no.2:
89-93 '65. (MIRA 18:5)

SHUVALOV, S. I., NIKOLAYEV, A. M.

Agriculture

Making sour milk products, Moskva, Pishchepromizdat, 1952.

Monthly List of Russian Accessions, Library of Congress, December 1952. Unclassified.

MALUSHKO, Vladimir Fedorovich; NIKOLAYEV, Aleksey Mikhaylovich;
SHUVALOV, S.I., spetsred.; IVANOVA, N.M., red.; PEREDERIY,
S.V., tekhn.red.

[Technology of cheese] Tekhnologija syra. Moskva, Pishcheprom-
izdat, 1960. 247 p.
(Cheese) (MIRA 14:4)

Critical number of quanta in photography. S. P. Shuvalov. *J. Phys. Chem. U. S. S. R.* 6, 387-402 (1930); cf. *C. A.* 31, 21009. The probability of a single grain in a monodisperse unlayer emulsion absorbing a certain min. no. of light quanta is calculated by statistical methods (Poisson's law). The results agree qualitatively with expts. on counting of grains after development. A method is indicated for detn. of the min. no. of quanta absorbed by a grain which make its development possible.
R. C. A.

AIA-SLA METALLURGICAL LITERATURE CLASSIFICATION

CLASS SYMBOLS

141007-47 UNP 241

ELECTROLYTIC

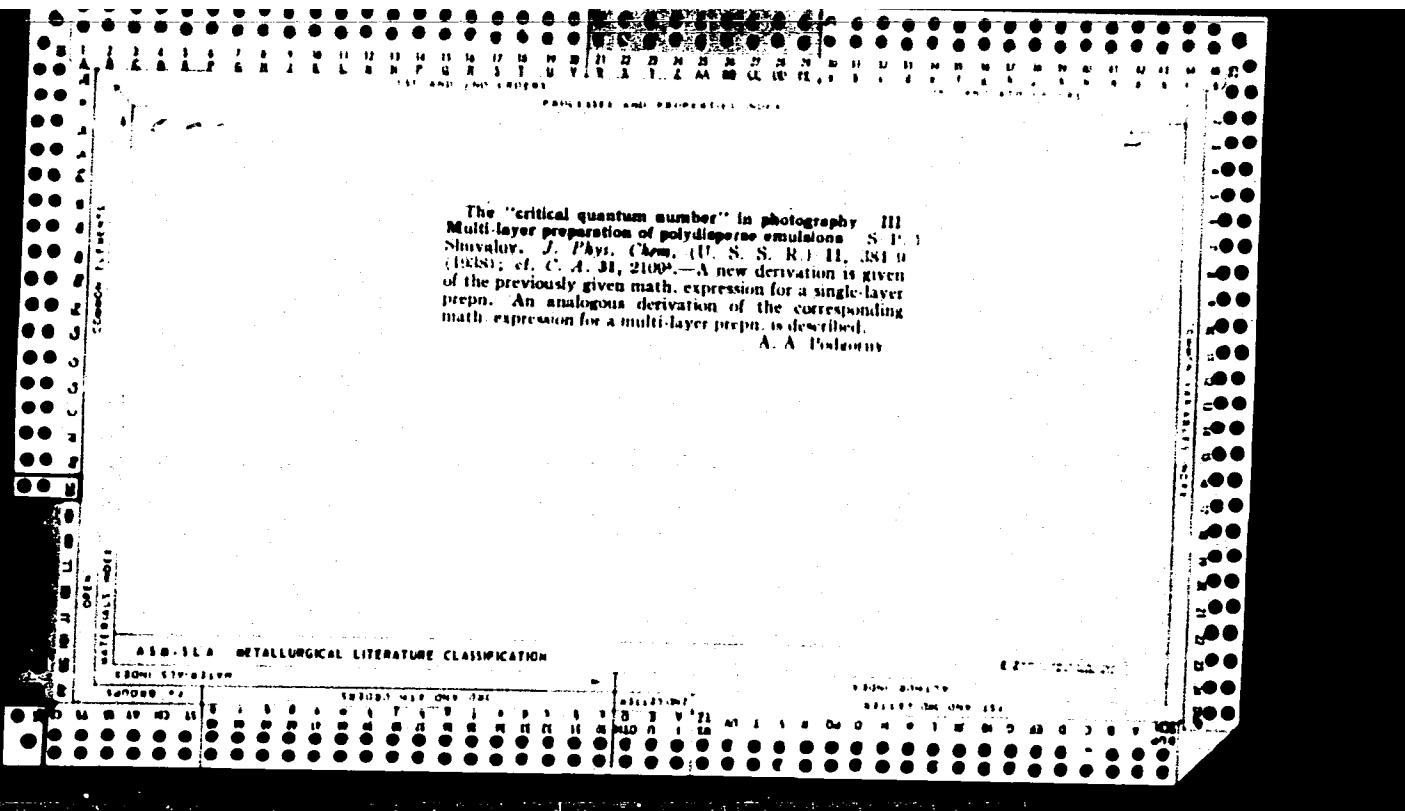
ELECTROLYTIC 241

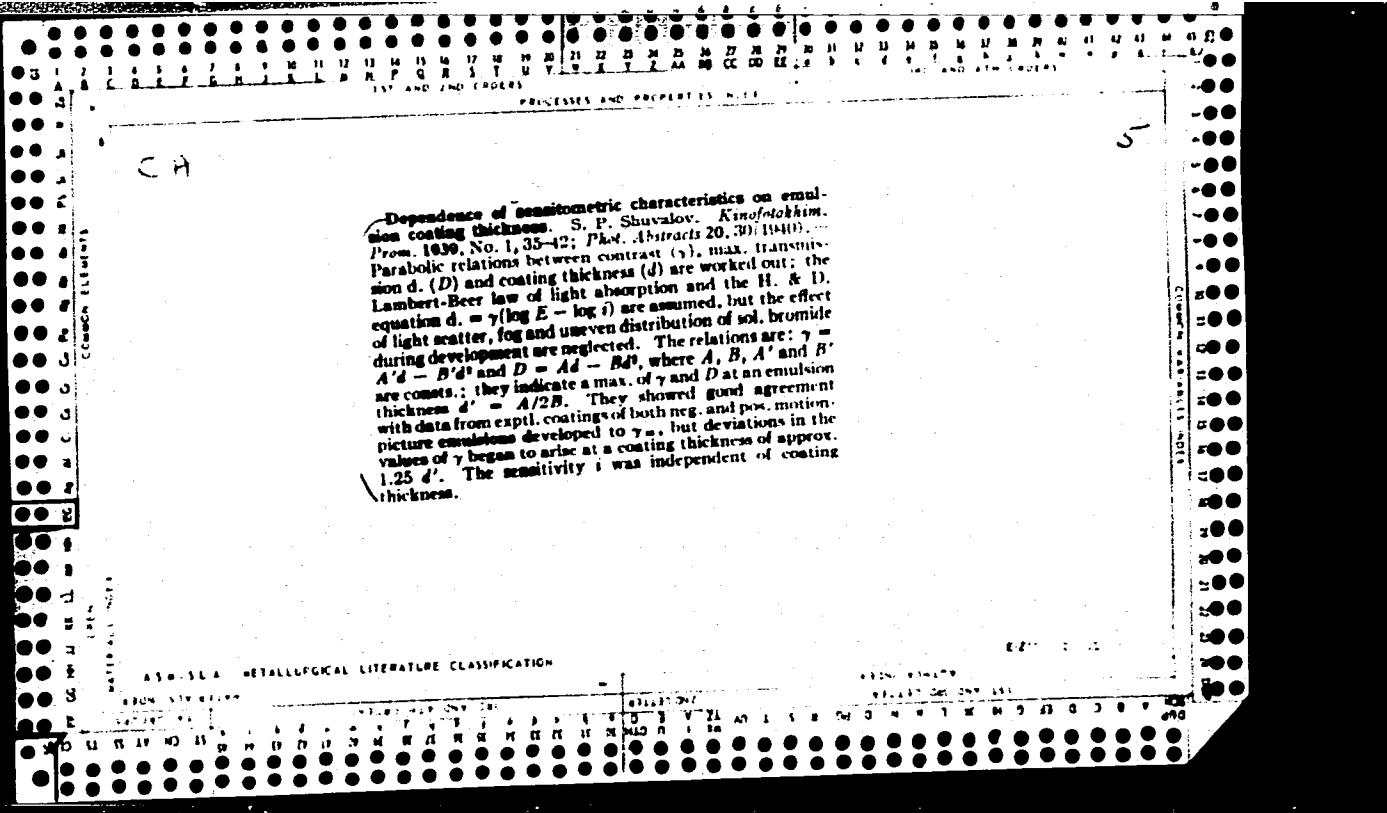
CZ-17-241

CH

The "critical number of quanta" in photography. II.
Polydisperse emulsions. S. P. Shatalov. J. Phys.
Chem. (U.S.S.R.) 8, 514-24 (1930).—The crit. quantum
no. for grains of various size classes of unmixed photo-
graphic emulsions is the same. A math. expression is
derived for the relation between the no. of developed and
undeveloped grains and the no. of quanta of monochro-
matic light incident on a single-layer prepn. The values
so derived agree well with those found by expt.
F. H. Rathmann

5



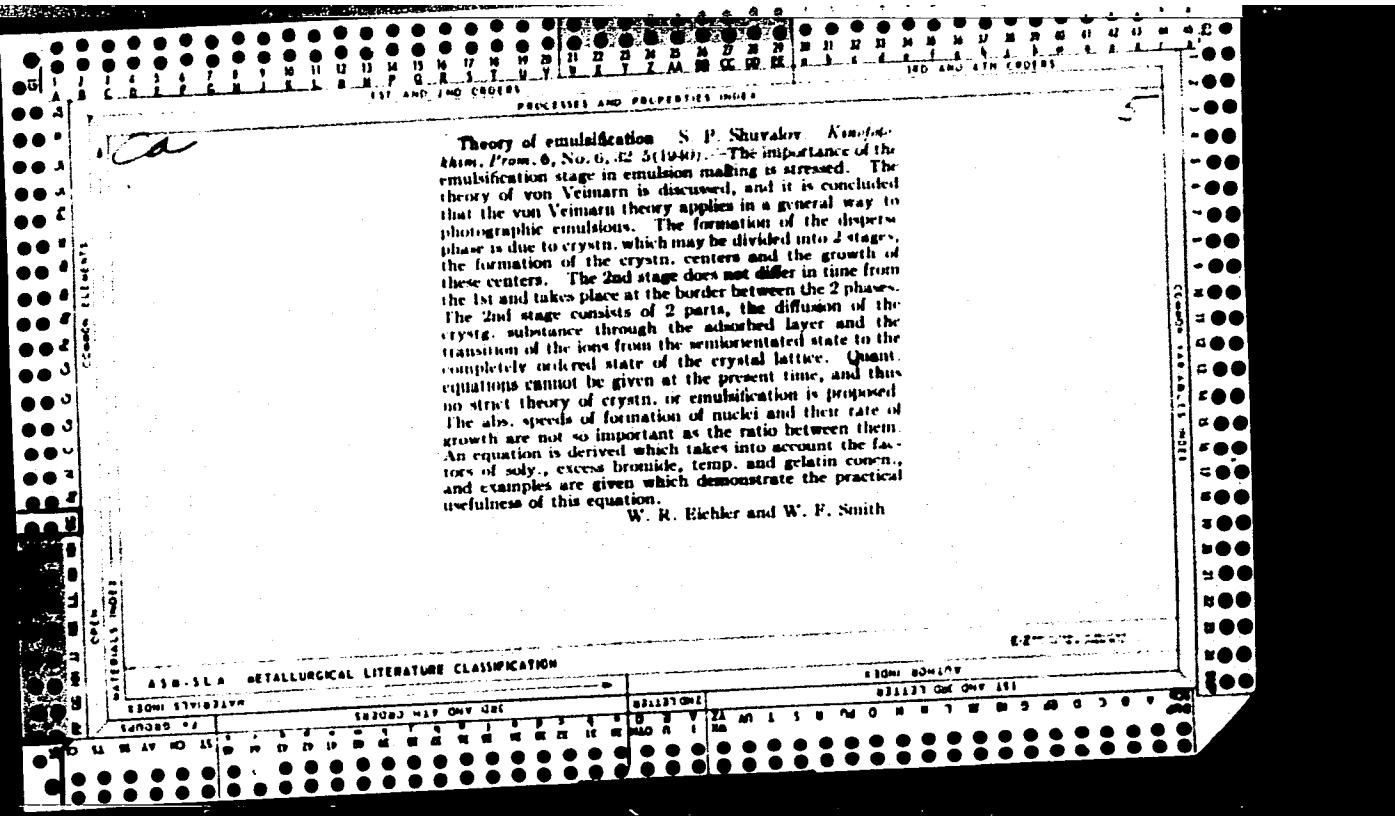


Changes of viscosity of photographic emulsions. S. P. Shuryakov. *Astron-Foto-Akhim. Prom.* 1938, No. 10, 46-53. Akhim. Referat. Zhur. 2, No. 6, 123 (1939). The formula of Arrhenius relating viscosity to concn., $\lg(\eta/\eta_0) = K/C$, holds for solns. of gelatin and for dil. emulsions. For the emulsions K is slightly smaller than for gelatin; this is attributed to the disintegration of gelatin in the formation of the emulsion. Since K is proportional to the median size, it is an expression of the degree of dispersion of the colloidal soln. W. R. Henn.

ASIL-SLA METALLURGICAL LITERATURE CLASSIFICATION

Theory of emulsification S. P. Shavelov. *Kinematika i vremya, Prom.,* 6, No. 6, 62-51 (1940).—The importance of the emulsification stage in emulsion making is stressed. The theory of von Veimarn is discussed, and it is concluded that the von Veimarn theory applies in a general way to photographic emulsions. The formation of the dispersing phase is due to crystal, which may be divided into 2 stages, the formation of the crystal centers and the growth of these centers. The 2nd stage does not differ in time from the 1st and takes place at the border between the 2 phases. The 2nd stage consists of 2 parts, the diffusion of the crystal substance through the adsorbed layer and the transition of the ions from the semikontinentated state to the completely ordered state of the crystal lattice. Quantitative equations cannot be given at the present time, and thus no strict theory of crystal or emulsification is proposed. The abs. speeds of formation of nuclei and their rate of growth are not so important as the ratio between them. An equation is derived which takes into account the factors of solv., excess bromide, temp. and gelatin concn., and examples are given which demonstrate the practical usefulness of this equation.

W. R. Eichler and W. F. Smith



SHUVALOV, S.P.

Application of IUDin's roentgenotherapy in pulmonary tuberculosis.
Klin.med., Moskva 29 no.4:38-43 Apr 1951. (CLML 20:9)

1. Of the Dolosy Clinical Tuberculosis Sanatorium VTsSPS (Scientific
Director--Prof. A.S. Furman).

SHUVALOV, S. P.

"X-Ray Therapy in the Complex Treatment of Patients With Chronic Forms of Pulmonary Tuberculosis in the Central Mountain Zone of the Southern Crimean Coast." Cand Med Sci, Crimean State Medical Inst imeni I. V. Stalin, Simferopol', 1955. (KL, No 10, Mar 55)

SO: Sum. No. 670, 29 Sep 55--Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (15)

SHUVALOV, V.

Lowering expenses in the merchant marine. Mor.flot 19 no.9:26-27
S '59. (MIRA 12:11)

1. Kapitan parokhoda "A. Suvorov."
(Merchant marine)

SHUVALOV, V.

Evaluating the accuracy of determining the position of a vessel by
gradients. Mor. flot 20 no.11:19-21 N '60. (MIRA 13:11)

1. Kapitan parokhoda "Aleksandr Suvorov."
(Radar in navigation)

1. SHUVALOV, V.
2. USSR (600)
4. Pumping Machinery-Testing
7. Testing milk pumps under production conditions. Mol.prom. 12, no. 12, 1952.
9. Monthly List of Russian Accessions, Library of Congress, March 1953, Unclassified.

SHUVALOV, V., BUTVILOVSKIY, G., TISHKINA, L.

Refrigeration and Refrigerating Machinery

Small-size drum cooler. Mol prom. 13, No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952.
Unclassified.

1. KUK, G.; SHUVALOV, V.
2. USSR (600)
4. Dairy Plants
7. Technical re-equipment of industry and problems of scientific research institutions, mol. prom., 13, No. 11, 1952.
9. Monthly List of Russian Accessions, Library of Congress, February, 1953. Unclassified.

SHUVALOV, V., kapitan dal'nego plavaniya

Painting of the underwater part of ship hulls. Mor. flot
22 no.8:38 Ag '62. (MIRA 15:7)

1. Murmanskoje parokhodstvo.
(Ships--Painting)

SHUVALOV, V.; ARSLANOV, R.

Put order into merchant seamen's work routine. Mor.flot 22
no.12:21-22 D '62. (MIRA 15:12)

1. Kapitan parokhoda "A.Suvorov" Murmanskogo parokhodstva (for
Shuvalov).
(Merchant marine--Personnel management)

SHUVALOV, V., kapitan; ISTOMIN, A., vtoroy shturman

Discharging timber in the port of Toyama. Mor. flot 25 no.10:45
0 '65. (MIRA 18:11)

1. Parokhod "A. Suvorov".

SUVALOV, V., kapitan

Attention and care should come first. Mor. flot 25 no.4:45
(MIRA 18:6)
Ap '65.

1. Parohod "Aleksandr Suvorov" Upravleniya arkticheskogo i
ledokol'jogo flota Severnogo parohodstva.

9 (6)

SOV /112-57-5-10718

Translation from: Referativnyy zhurnal, Elektrotehnika, 1957, Nr 5, p 162 (USSR)

AUTHOR: Shuvalov, V. A., Mokhov, V. A.

TITLE: Electronic Wire-Break Detector (Elektronnyy fiksator obryva provoda)

PERIODICAL: Obmen optyom. M-vo radiotekhn. prom-sti SSSR, 1955,

Nr 4, pp 3-5

ABSTRACT: Bibliographic entry.

Card 1/1

L 23467-66 EFT(1)/ETC(f)/EPE(n)-2/EWC(m) IJP(c)

AT

UR/0057/66/036/002/0377/0383

ACC NR: AP6007091

AUTHOR: Khazen, A.M.; Shuvalov, V.A.

ORG: Scientific Research Institute of Mechanics, Moscow (Nauchno-issledovatel'skiy
institut mekhaniki)

TITLE: Measurement of properties of a partially ionized gas with a hot-wire anemometer

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 2, 1966, 377-383

TOPIC TAGS: plasma diagnostics, rarefied plasma, plasma jet, plasma flow, plasma density, plasma electron temperature, plasma ion temperature, plasma neutrals temperature, plasma probe, anemometer

ABSTRACT: It is proposed that a thin wire or rod be used simultaneously as a Langmuir probe and a hot-wire anemometer in plasma diagnostics. The theory of the instrument is developed and it is shown that if the mean free paths of the plasma particles and the ion Larmor radius are both large compared with the diameter of the wire one can derive the electron temperature, the ion temperature, the temperature of the neutrals, the charged particle concentration, and the flow rate of the plasma from measurements made with the wire perpendicular to the flow and with the wire parallel to the flow. The proposed device was tested by measuring the characteristics of a jet of helium plasma excited by a high frequency discharge at 0.2 mm Hg. An 0.15 ohm 0.09 mm diameter

UDC: 537.562

Card 1/2

L 23487-66

ACC NR: AP6007091

13 mm long molybdenum wire was used. The wire was connected to a bridge with which its resistance was measured with an accuracy of 0.001 ohm; the bridge and its power supply were insulated and could be maintained at any desired potential for measurement of the probe characteristic. The flow rate of the plasma jet was of the order of 10^5 cm/sec. The results of the measurements are regarded as satisfactory, although the theory could be improved, particularly in regard to the determination of the ion temperature. The authors thank G.I.Petrov for his interest in the work. Orig. art. has: 25 formulas, 1 figure, and 1 table.

SUB CODE: 20/

SUHM DATE: 08Feb65/

ORIG REF: 001/

OTH REF: 004

Card 2/2

TARABANOV, V.M.; SHUVALOV, V.A.

Accuracy of measuring parallactic angles. Geod. i kart. no. 6:18-19
Je '63. (MIRA 16:9)
(Traverses (Surveying))

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4

SHUVALOV, Viktor Dmitrievich.

The Stakhanov school of crane operators Leningrad Morskoi transport, 1952. 44 p. (54-17494)

TJ1363.S5

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4"

SHUVALOV, Vasiliy Dmitriyevich; STAROVOYTOV, Konstantin Semenovich;
CINZEURG, Yakov Markovich; RYBAKOVA, V.D., red.; PONOMAREVA,
A.A., tekhn. red.

[Ways for improving agriculture in the non-Chernozem zone]Pu-
ti pod"ema sel'skogo khoziaistva nechernozemnoi zony. Moskva,
Ekonomizdat, 1962. 162 p. (MIRA 16:2)

(Agriculture)

SHUVALOV, V.F.

Use of point type automatic cab signaling devices on the Estonian Railroad. Avtom., telem. i sviaz' 4 no.3:20-21 Mr '60.
(MIRA 13:?)

1. Glavnnyy inzhener sluzhby signalizatsii i svyazi Estoniiskoy dorogi. (Estonia--Railroads--Signaling)

POSTNIKOV, L.M.; SHLYAPINTOKH, V.Ya.; SHUVALOV, V.F.

Chemiluminescence in the gaseous oxidation of acetaldehyde,
Zhur.fiz.khim. 36 no.10:2284-2286 O '62. (MIRA 17:4)

1. Institut khimicheskoy fiziki AN SSSR.

SHOVALOV, V.F., LEBEDEV, Ya.S.; TSEPALOV, V.F.; SHLYAPINTOKH, V.Ya.

Electron paramagnetic resonance spectra of peroxide radicals
in the liquid phase. Zhur. fiz. khim. 38 no.5:1287 My '64.
(MIRA 18:12)

I. Institut khimicheskoy fiziki AN SSSR. Submitted March
28, 1960.

45160
S/020/63/146/002/037/037
3124/3186

AUTHORS:

Shuvalov, V. F., Vasil'yev, R. F., Postnikov, L. M.,
Shlyapintokh, V. Ya.

TITLE:

Formation of excited formaldehyde molecules in low-temperature
oxidation of acetaldehyde.

PERIODICAL:

Akademiya nauk SSSR. Doklady, v. 148, no. 2, 1963, 388-390

TEXT: The project consisted in determining the chemical nature of the
luminescent particles in the oxidation of acetaldehyde. It is proved that
in this reaction the luminescence is connected with the formation of ex-
cited formaldehyde molecules. Chemi-luminescence is also explained in reactions which pro-
ceed under formation of alkoxyl radicals. T. N. Zhuchkova; the instrument developed by R. F. Vasil'yev, S. M. Petukhov and
T. N. Zhuchkova; the instrument developed by R. F. Vasil'yev, S. M. Petukhov and
(1962). The chemi-luminescence spectrum is described in ZhFKh, v. 36, No. 10, 2284
hyde and 47 mm Hg oxygen was taken at 182°C, chemi-luminescence has two having a
maximum value. The kinetic curve of chemi-luminescence has two peaks. In
excited

ASSOC
Academy of Sciences USSR)

Card 1/3

Card 2/

Formation of excited formaldehyde...

S/020/63/148/002/037/037
B124/3186

PRESENTED: June 11, 1962, by V. N. Kondrat'yev, Academician

SUBMITTED: July 10, 1962

Card 3/3

L 9865-63

EPF(c)/EWT(1)/EWT(m)/BDS-AFFTC/ASD-Pr-4--RM/WW/MAY/IJP(C)

ACCESSION NR: AF3001349

S/0048/63/027/006/0735/0738

AUTHOR: Postnikov, L. M.; Shuvalov, V. F.; Shlyapintokh, V. Ya.

TITLE: Nature of chemiluminescence associated with low-temperature oxidation of acetaldehyde [Report of the Eleventh Conference on Luminescence held in Minsk from 10 to 15 September 1962]

SOURCE: AN SSSR. Izv. Seriya fizicheskaya, v. 27, no. 6, 1963, 735-738

TOPIC TAGS: chemiluminescence, vapor phase reactions, reaction kinetics, acetaldehyde

ABSTRACT: Chemiluminescence - luminescence accompanying chemical reactions - has been under study at the Institute of Chemical Physics of the Academy of Sciences SSSR for several years, and it has been established that the emission appears as a result of radical recombination. Most of the previous studies, however, were concerned with reactions in the liquid phase. Accordingly, it was deemed of interest to investigate reactions in the vapor phase. Chemiluminescence has been observed (in some cases for the first time) incident to decomposition of methyl

Card 1/2

L 9865-63

ACCESSION NR: AP3001349

hydroperoxide, oxidational decomposition of deuteric butyl peroxide and azomethane, slow oxidation of n-butane, ethyl ether, acetaldehyde, etc. The present experiments were carried out in a 550 cc molybdenum glass reaction vessel at temperatures from 100 to 200°C and initial pressures from tens to hundreds mm Hg. The variations in chemiluminescence and pressure were recorded automatically; when indicated, the end products were subjected to chemical analysis. The time variation of the chemiluminescence incident to oxidation of acetaldehyde proved to be distinctive; most curves exhibit two peaks; one sharp, the other flat (the time curves and spectra for oxidation of acetaldehyde are reproduced). This indicates that the reaction proceeds in two stages. Hence observation of chemiluminescence provides a means for studying the kinetics of some chemical reactions. Orig. art. has: 3 figures.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences, SSSR)

SUBMITTED: 00 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: PH,CH NR REF SOV: 006 OTHER: 006

Card 2/2 ja/mh

ZHURAVLEVA, T.S.; LEBEDEV, Ya.S.; SHUVALOV, V.F.

Distribution of spin density in radicals of nitrile derivatives.
Zhur. strukt. khim. 5 no.5:786-789 S-6 '64 (MIRA 18:1)

I. Fiziko-khimicheskiy institut imeni L.Ya. Karpova i Institut
fizicheskoy khimii AN SSSR.

L 45747-56 EWT(1) IJP(c)
ACC NR: AP6029851

SOURCE CODE: UR4032/66/032/008/0933/0943

AUTHOR: Molin, Yu. N.; Chibrikin, V. M.; Shabalkin, V. A.; Shuvalov, V. F.

5/
B

ORG: Institute of Chemical Physics, Academy of Sciences SSSR (Institut khimicheskoy fiziki Akademii nauk SSSR)

TITLE: Accuracy of measuring the concentration of paramagnetic entities by the EPR method

SOURCE: Zavodskaya laboratoriya, v. 32, no. 8, 1966, 933-943

TOPIC TAGS: EPR spectrometer, spin resonance, error measurement / EPR 2 spectrometer, RE 1301 spectrometer

ABSTRACT: The purpose of this investigation was to make a systematic study of the errors involved in the quantitative determination of the number of paramagnetic entities (atoms, radicals, ions, etc.) using the electron paramagnetic resonance method. The spectrometer operated at a wavelength of 3.2 cm with 1MHz modulation of the magnetic field. A cylindrical cavity (H_{011}) of diameter 45 mm and height 34 mm was used. Quantitative results were obtained by comparing the signal intensity of the unknown sample with that of a standard containing a known number of spins. Both signals were recorded as the first derivative of the absorption line. Errors connected with the preparation of a suitable standard of known paramagnetic spin concentration were minimized by

UDC: 538.113:543.42

Card 1/2

L 45787-66

ACC NR: AP6029851

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direct weighing of the standard ($N = 10^{18}$ - 10^{19} spins) and the use of a calibrated voltage divider with the spectrometer. Under ideal conditions, the principal error is due to integration of the derivative signal. The maximum error was found to be 20-30% where the integration step in the graphical integration was much smaller than the line width and the "wings" of the signal were not neglected especially in the case of signals with Lorentzian shape. Distortion of the signal form by use of large modulation amplitudes which decrease the signal height will not affect the determination of intensity by integration. The quantitative measurements should be carried out at klystron powers low enough to prevent saturation of the EPR signal. Large errors (50-65%) will occur if the geometry of the unknown and standard differ greatly. For example, comparison of a line sample (34 mm) with a "point" standard will lead to an error of 50%. Orig. art. has: 9 figures, 2 tables, 25 formulas.

SUB CODE: 20/ SUBM DATE: none/ ORIG REF: 004/ OTH REF: 003/ATD PRESS:
5085

Card 2/2 pb

BARSHCHEVSKIY, M.M.; BEZMOZGIN, E.S.; ZAGLODIN, L.Z.; SINEL'NIKOV, A.S.;
SHUVALOV, V.I.

High production oil-shale retorts. Gaz. prom. no. 7:7-11 J1 '58.
(MIRA 11:7)

(Oil shales)
(Gas retorts)

SHUVALOV, V.I.

Improve methods of controlling railroad rails. Defektoskopiia
no. 5:94-95 '65 (MIRA 19:1)

1. TSentral'nyy institut nauchno-tehnicheskoy informatsii
Ministerstva putey soobshcheniya.

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4

BARSHCHEVSKIY, M.M.; BEZMOZGIN, E.S.; SINEL'NIKOV, A.S.; SHUVALOV, V.I.

Shale-gas producers with a central feed for the ~~heat-carrying~~
agent. Trudy VNIIIPS no.7:120-146 '59. (MIRA 12:9)
(Gas retorts)

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4"

AGAPOV, Yu.Ya, Prinimal uchastiye SHUVALOV, V.K.; SHEPKIN, I.G., red.;
PRONINA, N.D., tekhn. red.

[Collection of tables on gas exchange] Sbornik tablits po gazo-
obmenu. Moskva, Medgiz, 1963. 79 p. (MIRA 16:3)
(RESPIRATION) (BASAL METABOLISM)

ALESHCHENKOV, P.I.; MITYAYEV, Yu.I.; KNYAZEVA, G.D.; LUNINA, L.I.; ZHIRNOV,
A.D.; SHUVALOV, V.M.

The I.V. Kurchatov Beloyarsk Atomic Power Plant. Atom. energ.
16 no.6:489-496 Je '64. (MIRA 17:7)

KRUPIN, G.V., prof.; LUK'YANOV, N.Ya., dots.; TANASOV, F.M., dots.;
BOGUSHEV, T.A., dots.; SHUVALOV, V.N., dots.; VASIL'YEV, P.V.,
inzh.; KUZNETSOV, V.I., inzh., retsenzent; SURKOV, V.D.,
prof., retsenzent;

[Technological equipment of dairy industry enterprises] Tekhnologicheskoe oborudovanie predpriatii molochnoi promyshlennosti. [By] G.V Krupin dr. Izd. 3., perer. Moscow, Izd-vo "Mashinostroenie," 1964. 355 p. (MIRA 17:8)

1. Kafedra tekhnologii moloka Moskovskogo tekhnologicheskogo instituta myasnoy i molochnoy promyshlennosti (for Surkov).

SHUVALOV, V.N., kand. tekhn. nauk, dots.

Movement of liquid in butter churns at supercritical speeds. Trudy
LTIKHP 5:94-99 '54. (MIRA 11:3)
(Butter) (Fluid dynamics)

USSR.

Some rules governing the churning of butter. V. N.
Shuvalov and I. N. Vladavets. Colloid J. (U.S.S.R.) 10,
379-82 (1954) (Engl. translation).—See C.A. 49, 26362.
H. L. H.

SHUVALOV, V.N.

Some rules governing the churning of butter. V. N. Shuvalov and I. N. Vlodavets (Inst. Kefir, and Milk Ind., Leningrad). *Kolloid. Zhur.*, 16, 396-400 (1934); cf. C.A. 47, 28964. The time τ for transforming cream into butter was a function of the product φv ; φ = g. fat in ml. cream and v = peripheral speed of the stirrer. For a smooth cylindrical stirrer, $\tau = k(\varphi v)^{-1}$, and for a 2-blade stirrer $\tau = k(\varphi v)^{-1.1}$, when churning was done in a plastic beaker. The flow in the beaker was turbulent; τ varied between 0.2 and 0.5 and v between 300 and 1500 cm./sec. At small v , the 2-blade stirrer was more efficient than the cylindrical stirrer because it mixed air with cream and accelerated flotation of the fat globules. L. J. Bickerman

SHUVALOV, V.N.

PELEYEV, A.I., kandidat tekhnicheskikh nauk; SURKOV, V.D., professor,
doktor tekhnicheskikh nauk, redaktor; SEMENOVA, N.L., redaktor;
ANUPRIYEV, V.V., inzhener, retsenzent; SHUVALOV, V.N., kandidat
SHUVALOV, V.N., kandidat tekhnicheskikh nauk; GOTLIB, B.M., tekhnicheskiy redaktor

[Operation of vacuum pumps in the meat and milk industries] Mks-pluatatsiya vakuum-nasosov v miasnoi i molochnoi promyshlennosti.
Moskva, Pishchepromizdat, 1955. 104 p.
(MLRA 9:1)
(Vacuum-pumps)

LAPSHIN, A.A., dotsent, kand.tekhn.nauk; SHUVALOV, V.N., dotsent,
kand.tekhn.nauk

Automatic regulation of temperature in pasteurization.
Trudy LTIKHP 13:54-70 '57. (MIRA 13:6)

1. Kafedra tekhnologicheskogo oborudovaniya pishchevykh
proizvodstv Leningradskogo tekhnologicheskogo instituta
kholodil'noy promyshlennosti.
(Milk--Pasteurization) (Automatic control)

BOUSHOV, T.A., dotsent, kand.tekhn.nauk; SHUVALOV, V.N., dotsent,
kand.tekhn.nauk

Experimental determination of the heat transfer coefficient
in tubular heat exchangers equipped with a spray cooler. Trudy
LTIKHP 13:71-78 '57.
(MIRA 13:6)

1. Kafedra tekhnologicheskogo oborudovaniya pishchevykh
proizvodstv Leningradskogo tekhnologicheskogo instituta
kholodil'noy promyshlennosti.
(Heat exchangers) (Heat--Transmission)

GERNET, M.M., doktor tekhn.nauk,prof.; DIKIS, M.Ya., doktor tekhn.nauk, prof.; LUK'YANOV, V.V., doktor tekhn.nauk,prof.[deceased]: POPOV, V.I., doktor tekhn.nauk,prof.; SOKOLOV, A.Ya., doktor tekhn.nauk,prof.; SOKOLOV,V.I.,doktor tekhn.nauk,prof.; SURKOV,V.D.,doktor tekhn.nauk,prof.; BARANOVSKIY, N.V., kand.tekhn.nauk,dots.; BROYDO, B.Ye., kand.tekhn. nauk, dots.; BUZYKIN, N.A., kand.tekhn.nauk, dots.; GOROSHENKO, M.K., kand.tekhn.nauk, dots.; GORTINSKIY, V.V., kand.tekhn.nauk, dots.; GREBENYUK, S.M., kand.tekhn.nauk, dots.; GUS'KOV, K.P., kand.tekhn. nauk, dots.; DEMIDOV, A.R., kand.tekhn.nauk, dots.; ZHISLIN, Ya.M., kand.tekhn.nauk, dots.; KARPIN, Ye.B., kand.tekhn.nauk, dots.; KOSITSYN, I.A., kand. tekhn.nauk, dots. [deceased]; GEYSHTOR, V.S., kand.tekhn.nauk, dots.; MARSHALKIN, G.A., kand.tekhn.nauk, dots.; MOLDAVSKIY, G.Ye., kand.tekhn.nauk, dots.; ODESSKIY, D.A., kand. tekhn.nauk, dots.; PELEYEV, A.I., kand.tekhn.nauk, dots.; RUB, D.M., kand.tekhn.nauk, dots.; SKOBLO, D.I., kand.tekhn.nauk, dots.; SHUVALOV, V.N., kand.tekhn.nauk, dots.; KHTEL'NITSKAYA, A.Z., red.; SOKOLOVA, I.A., tekhn. red.

[Principles of the design and construction of machinery and apparatus for the food industries] Osnovy rascheta i konstruirovaniia mashin i apparatov pishchevykh proizvodstv. Moskva, Pishchepromizdat, 1960.
741 p. (MIRA 14:12)

(Food industry—Equipment and supplies)

KHARLAMOV, S.V.; SHUVALOV, V.N.

Selecting the optimum parameters of rectangular packages taking
the operative efficiency of wrapping machines into account. Izv.
vys.ucheb.zav.; pishch.tekh. no.3:82-86 '62. (MIRA 15:7)

1. Leningradskiy tekhnologicheskiy institut kholodil'noy
promyshlennosti, kafedra tekhnologicheskogo oborudovaniya pishchevykh
proizvodstv.
(Packaging) (Wrapping machines)

VAYNBERG, Arkadiy Yakovlevich, kand. tekhn. nauk; BRUSILOVSKIY, Leonid Petrovich; TEPMAN, L.M., retsenzent; IRZHEVSKIY, V.P., retsenzent; SHUVALOV, V.M., retsenzent; SHABSHAYEVICH, M.L., spets. red.; KORELT, L.V., red.

[Automation of technological processes in the dairy industry] Avtomatizatsiya tekhnologicheskikh protsessov v molochnoi promyshlennosti. Moskva, Pischevaya promyshlennost', 1964. 246 p. (MIRA 18:3)

1. Leningradskiy tekhnologicheskiy institut khlopol'st'noy promyshlennosti (for Shuvalov).
2. Vsesoyuznyy nauchno-issledovatel'skiy i eksperimental'nyy institut prodovol'stvennogo mashinostroyeniya (for Shabshayevich).
3. Institut Pischevepromavtomatika (for Irzhevskiy).

ROTGLICH, Anatoly Mat'yevich; SHUVALOV, Vladimir Nikolayevich,
Leningrad, Tekhn. zhurn., dots., red.

[Brief German-Russian dictionary on the manufacture of commercial machinery and technological equipment for food enterprises; handbook for the correspondence students of mechanical engineering and technological departments] Kratkiy nemetsko-russkiy slovar' po torgovomu mashinostroeniiu i tekhnologicheskому otorudovaniyu pishchevykh predpriatiy; posobie dlia studentov - zashchitnikov mekhanicheskogo i tekhnologicheskogo fakul'tetov. Leningrad, Leningr. tekhnologicheskii inst. khodil'noi promst., 1964. 78 p. (MIRA 18:7)

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4

SECRET//NOFORN

Method of the preparation of clandestine distribution of the
Hunting Club to the personnel of the Central Intelligence Agency (CIA) (T-12)

1. Training and/or indoctrination of personnel.

2. Distribution of information to personnel.

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4"

"APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4

ANNECY, LAKE, SWITZERLAND

On plankton according to collections of the expedition of the
icebreaker "F. Litke" in 1955. Treaty AANII 254; 378; 389 '64.
(MIRE 17:12)

APPROVED FOR RELEASE: 08/31/2001

CIA-RDP86-00513R001550320001-4"

SHUVALOV, V.S.

Seasonal variability in size and some characteristics of the
biology of *Oithona similis* Claus (Copepoda, Cyclopoida) in
the White Sea (Kandalaksha Bay). *Okeanologija* 5 no.2:338-
347 '65. (MIRA 18:6)

1. Zoologicheskiy institut AN SSSR, Leningrad.

TELISHEVSKIY, I.A.; SHUVALOV, V.V.; NAYMARK, I.A., red.; STAROSTINA, L.P.,
tekhn. red.; AKZAMOV, K., tekhn. red.

[Reference book (atlas) on dermatology illustrated with photographs
for the practicing physician] Fotoilliustrirovannyi spravochnik (atlas)
po dermatologii dlia prakticheskogo vracha. Pod obshchey red. I.A. Te-
lishevskogo. Tashkent, Gos. med. izd-vo M-va zdravookhraneniia UzSSR,
1960. 382 p. (MIRA 14:7)

1. Kafedra dermatovenerologii Tashkentskogo gosudarstvennogo instituta
dlya spetsializatsii i usovershenstvovaniya vrachey (for Telishevskiy)
(DERMATOLOGY)

SHUVALOV, V.V.; SAVKLYEV, L.P. (g.Karshi, Uzbekskoy SSR)

Successful treatment of patients with cutaneous leishmaniasis
by means of Bergenia grassifolia. Vest.derm. i ven. 34
no.11:67-69 N '60. (MIRA 13:12)
(LEISHMANIASIS MUCOCUTANEOUS ther.)
(PLANTS)

KAGAL'NIKOVA, T.I.; RADZYEVSKIY, V.V.; CHERNIKOV, Yu.A.;
CHERNYSHEV, V.I.; SHUVALOV, V.V.

Observation of the gravity effect of the solar eclipse of
February 15, 1961 in Yaroslavl. Biul. VAGO no.31:15-17 '62.
(MIRA 16:A)

1. Yaroslavskiy gosudarstvennyy pedagogicheskiy institut
imeni K.D. Ushinskogo i Yaroslavskoye otdeleniye Vsesoyuznogo
astronomo-geodezicheskogo obshchestva.
(Yaroslavl—Eclipses, Solar) (Gravity)

USER/Chemistry - Aromatization

Sep/Oct 51

"Behavior of Five-Membered Cycloenes in Contact With Halogen Salts of Metals in the Liquid Phase," N. I. Shuykin, Kh. M. Minachev, N. D. Zelinsky, Inst of Org Chem, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 5, pp 554-559

Studied catalytic action of AlCl₃, ZnCl₂, SbCl₃, GaCl₃, and TiCl₄ on isomerization of cyclopentanes into 6-membered cyclic hydrocarbons. Found that none of chlorides, singly or in equimolar mixts, brings about isomerization; that, depending on reaction conditions, process goes in direction of polymerizatn;

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USER/Chemistry - Aromatization (Contd) Sep/Oct 51

and that cycloes have inactivating effect on AlCl₃ in respect to conversion of 5-membered to 6-membered cyclic hydrocarbons.

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CA

10

Destructive catalytic oxidation of styrene. N. L. Shashin and N. A. Pudnayak. *Vestn. Moskov. Univ.*, 6, No. 2, Ser. Fiz.-Mat., i Estestven. Nauk No. 1, 85-9 (1951).—PhMe passed through a tube with Cu-chromite catalyst or Cr-Vd catalyst at 350-650° with dry air gave C₆H₆, BiH, and small amounts of BaOH. Xylene, b.p. 150-40°, treated similarly gave up to 16% MePh with Cr-Vd catalyst at 650°. The other products secured with the above catalyst, as well as with Cu-chromite, Cr-Ag, and Cr-Mn, included toluic acids, tolualdehydes, BiI, and BaOH. The highest amt. of the oxidation products was found with Cr-Vd catalyst at 350° and 0.03 ml./min. flow rate when 130% (of theoretical) O₂ (as air) was used; at 650° with a deficiency of air some C₆H₆ was also detected. Hence destructive oxidation of styrene proceeds through successive formation of PhMe and C₆H₆ and the resp. aldehydes and acids. G. M. K.

PA 1977b

SHUJKIN, N. I.

USSR/Chemistry - Liquid Fuels

Nov/Dec 51

"Conversion of Middle Fractions of Tar From Budagovo Sapropelites to Useful Products," I. I. Shukhin, Ye. A. Timofeyeva, Inst Org Chem, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 6, pp 728-732

Established conditions for converting the middle fraction (170-300°) of primary tar from Budagovo sapropelites, using acid-activated Trosikovo clay at 450° and vol velocity of 0.3. From this

1977b

USSR/Chemistry - Liquid Fuels
(Contd)

Nov/Dec 51

fraction, which contains 14% of hydrocarbons boiling below 200° obtained 31.6% of gasoline (bp 35-200°) and 44.6% of kerosene (bp 200-300°). This corresponds to a gasoline yield of 12.6% and a kerosene yield of 17.2%. Both products are of good quality.

1977b

SHUYKIN, N. I.

17818

USSR/Chemistry - Hydrocarbons

1 Feb 51

"Hydrogenation and Dehydrogenation of Hydrocarbons in the Presence of Co Catalysts With a Low Metal Content," Kh. M. Minachev, N. I. Shuykin, I. D. Rozhdestvenskaya, Inst Org Chem, Acad Sci USSR

"Dok Ak Nauk SSSR" Vol LXXVI, No 4, pp 543-546

Activated carbon contg 0.5-4.0% Co after treatment with cobalt nitrate can be successfully used for hydrogenation of benzene to cyclohexane, alkenes to alkanes, and cyclenes to cyclanes. Under conditions used, Co is just as effective as Ni.

17818

CM

2

Dehydrogenating and hydrogenating properties of low-content palladium catalysts. N. I. Shchukin, Kh. M. Minachev, and A. M. Rubinshtejn (Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.R.*, **70**, 89-92 (1951); cf. *C.A.* **43**, 7822b; **44**, 916r; 6249b, 77854. —Catalysts with 2.0, 1.0, 0.25, 0.10, and 0.05% Pd on active C were tested in dehydrogenation (I) of cyclohexane, in a weak stream of H₂, at a space velocity of 0.2 l./hr./l. catalyst, at 300-320°, and in hydrogenation (II) of C₆H₆ in excess H₂, at 0.06 l./hr./l. catalyst at 147-150°, with the degree of conversion detd. by refractometry. The initial degrees of conversion, in I and II, on the above 5 catalysts (in the order given) were: 82 and 90; 73 and 70; 51 and 54; 32 and 36; 9 and 0.4%. With time, in I, the activity of all catalysts falls, very slowly with the 2.0, 1.0, and 0.25% Pd catalysts, faster with 0.10 and 0.05% Pd; however, even the 0.05% Pd catalyst had still at least 5% of its initial activity left after about 12 hrs. In all cases, the fall of the activity with time is only gradual and very much different from the steep fall of the activity of high-Pd catalysts. X-ray data, before and after the reac-

tion showed that the initial lattice deformation either disappears altogether or at least decreases after the reaction. The measured differences of activity are, apparently, due not only to the different contents of Pd (in other words, to different contact times per unit mass of Pd) but to differences of structure of the Pd. Different structure accounts for the fact that the low-Pd catalysts are more active and more stable than are the previously investigated high-Pd catalysts, and have lattice parameters (before the reaction 3.81, 3.81, 3.85, 3.82, 3.83 Å.; after the reaction 3.80, 3.80, 3.82, 3.80, 3.82 Å.) little different from the normal lattice const., 3.881 Å., of Pd, whereas the high-Pd catalyst had a lattice const. of 4.04-4.08 Å. Evidently, the latter contained higher concn. of H. Strong lattice deformation by dissolved H appears to be unfavorable to catalytic activity in dehydrogenation. Nor did x-ray exams. of the 0.05-2.0% Pd catalysts show presence of a new phase after the reaction, in contrast to the high-Pd catalysts. The properties of the latter are evidently detd. by the considerable expansion of the Pd-Pd distance in the lattice. N. Tch.

SHUIKIN, N. S.

N. I. Shuikin, S.S. Novikov, T. I. Naryshkina. The nature of the six-membered hydrocarbons of high fractions of the Maikop benzene. P. 115.

Inst. of Organic Chem.
Acad. of Sci., USSR.
Jan. 4, 1951.

SO: Bulletin of the Acad. of Sciences, Izvestia (USSR) section on Chemical Sciences,
No. 2. (March-April 1951)

J.

F.A.

1420. CONVERSION OF METHYLCYCLOHEXANE AND OF TOLUENE IN CONTACT WITH ALUMINUM CHLORIDE. Shmeikin, N.I. and Puganova, L.M. (Inwest. Akad. Nauk SSSR, Otdel Khim. Nauk (Bull. Acad. Sci. U.S.S.R., Sect. Chem. Sci.), 1952, 137-144).

Reactions were carried out at atm. pressure 80°C, duration 4 to 24 h,

quantity of anhydrous aluminium chloride 4 to 20% (methylcyclohexane) and 4 to 10% (toluene). Methylicyclohexane yielded 2 to 5% of mixed dimethylcyclopentanes and smaller amounts of dimethylcyclohexane and cyclohexane. Toluene gave 2-methyl-¹³C-xylenes (25-50%) and 2,6-dimethyl-¹³C-xylenes predominating.

I.P.

SHUYKIN, N.I.; FEOFANOVA, L.M.

Transformation of methylcyclohexane and toluene in contact with aluminum chloride. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. '52, 149-56 [Engl. translation].
(CA 47 no.19:9893 '53)

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
Petroleum, Lubricants, and Asphalt

Desulfurizing action of Troschkov kaolin. E. A. Timo-
feev, N. I. Shunkin, and V. M. Kleimenova. *Bull.*
Acad. Sci. U.S.S.R., Div. Chem. Sci. 1952, 169-72 (Engl.
translation).—See *C.A.*, 46, 11647g. H.L.H.

(3)

8-31-58
888

SHULKIN, N.Y.

Chemical Abst.

Vol. 48 No. 9

May 10, 1954

Petroleum, Lubricants, and Asphalt

CATALysts

(2)
The preparation of styrene by catalytic dehydrogenation
of the ethyl-cyclohexane fraction of Maikop gasoline.
I. Shulkin and I. A. Levitskii. Bull. Acad. Sci. U.S.S.R.,
Div. Chem. 1952, 477-81 (Engl. translation). See C.A.
46, 11060b.

8-31-54
J.H.

*Pobeda, Lubrants &
Ophall 22*

Desulfurizing action of Troshkov kaolin. E. A. Timofeeva, N. I. Shulkin, and V. M. Kleimenova. *Izvst. Akad. Nauk S.S.R., Oddel. Khim. Nauk* 1962, 489-94.—The catalyst was prepd. from the clay without acid pretreatment, and the desulfurization expts. were run in the usual flow-type system at atm. pressure. The test gasoline had d_4^{20} 0.7100, wt% 1.4183, 0.185% S, 2.2 l no., 10% hydrocarbons subject to sulfonation. Preliminary tests showed that 400° was the optimum temp. at which the S content was dropped to 0.031%. Artificial mixts. of purified gasoline with PrSH, diisopropyl sulfide, thiophene, and thiophane gave similar results. The catalyst is regenerated by air-blowing at 500° for 3.3 hrs. After regeneration the desulfurizing action is greatly improved. Regeneration of catalyst is also accomplished by heating of the catalyst, although air-blowing is preferred. The removal of thiophene or thiophane to the level of 0.03-0.01% usually requires recycling over the catalyst as a single pass removes only some 30% thiophane S, while in the case of thiophane 2 passes serve to remove only some 34% of the S and no further effect is observed.
G. M. Kosolapoff

(1) b7c
28

Preparation of styrene by catalytic dehydrogenation of ethylcyclohexane fraction of Matkop gasoline. N. I. Shul'kin and I. I. Levitskii. *Izvist. Akad. Nauk S.S.R., Otdel. Khim. Nauk* 1952, 496-504. The stock consisted of a fraction of Matkop gasoline b. 127-34°, with d_4^{20} 0.7792, n_D^20 1.4341, 20% aromatic compounds. Passage over Pt-C at 300° and space velocity 0.3 gave a catalyst with 47% aromatic compounds, n_D^20 1.4479, d_4^{20} 0.7805; 2nd passage gave almost no change. Oxidation of the product with 5% alk. KMnO₄ gave the aromatic distribution of 35.6% ethylbenzene, 28.1% *o*-xylene, and 36% *m,p*-xylenes. Azeotropic distill. with MeOH and washing of the fractions with H₂O gave purely aromatic ethylbenzene-ethylene concentrate, b. 130-40°, n_D^20 1.4970, d_4^{20} 0.8712, consisting of 35.5% ethylbenzene and 64.5% xylenes. This fraction was dehydrogenated over V-alumina catalyst heat at 600°, yielding a catalyst with 22.3% styrene. The catalyst from the Pt-C dehydrogenation at 300° contained only 11-14% styrene. Dehydrogenation of the original 127-34° fraction (contg. 16.7% ethylcyclohexane) showed that the preliminary aromatization did not have any appreciable effect on the results of the high-temp. dehydrogenation, yielding 11-14% styrene in either case. G. M. Kosolapoff

SHUYKIN, N. I.

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

4
Role of inert diluents in the catalytic dehydrogenation of ethylbenzene. N. I. Shuklin and G. T. Levitskii. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1952, 550-60 (Engl. translation). See C.A. 46, 10818f.
H. L. H.

SHUKIN, N. I.

6

CATALYST

Chemical Abst.
Vol. 48 No. 9
May 10, 1954
General and Physical Chemistry

Poisoning of platinum catalysts with low contents of active metal on a carrier in dehydrogenation catalysis. Kh. M. Minachev, N. I. Shuklin, and T. D. Novikovskaya. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1952, 567-70. (Engl. translation).—See C.A. 46, 10823r. H. L. H.

(3)
Chem.

9-2-54
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General Chem. 2

CA

Role of inert diluents in the catalytic dehydrogenation of ethylbenzene. N. I. Shuklin and I. I. Levitskii (Inst. Org. Chern. Acad. Sci. U.S.S.R., Moscow). *Izv. Akad. Nauk S.S.R., Otdel. Khim. Nauk*, 1952, No. 612.—The well-known increase of the yield of PhCH_2CH_3 (I) produced in the catalytic dehydrogenation of PhEt , with increasing diln. of I by inert diluents, is not the result of secondary factors such as suppression of polymerization or, as is often assumed, due to kinetic factors, but simply the result of thermodynamic displacement of the equil. $\text{PhEt} \rightleftharpoons \text{I} + \text{H}_2$ in favor of I, brought about by inert diln. The proof of this is supplied by flow expts. on a V₂O₅ catalyst (80 ml.), close to equil. With undil. PhEt passed at different space velocities (from 0.20) to 20 40 l./l. catalyst/hr. (2.4 to 19.8 moles/l. catalyst/hr.), the yield of catalyzed levels off to about 95% from about $v = 1.2$ up, and the content of I in the catalyzed levels off at around 25%. Consequently, the reaction does reach thermodynamic equil. Taking 25.0% as the equil. degree of dehydrogenation of PhEt without diln., the equil. const. $K = x^2/(1-x)$, where $x = \text{moles I formed in the dehydrogenation of 1 mole I}$. $K = 0.0087$. The shift of the equil. on diln. with n moles $\text{H}_2/\text{moles PhEt}$ is given by the equation $(1+K)x^2 + (m+Km)x - K(1+m) = 0$. This equation was tested in expts. with mixts. $\text{PhEt} + \text{H}_2$ contg. 20-90 mole % H_2 ; the exptl. degrees of dehydrogenation lie, roughly, 3-4% above the calcd. curve. This discrepancy is attributed to suppression of the polymerization side-reaction through diln. with H_2 . The yields of I relative to PhEt passed are slightly higher than without diln. For the case of diln. with n moles of an inert diluent/mole PhEt , the equil. equation is $(K+1)x^2 + Km = 0$.

$K(n+1) = 0$. Expts. with 35-80 mole % Ni agree with this equation within 1.3%. Clearly, the increase of the yield of I through diln. with Ni is due not to a suppression of undesirable side reactions, but to a shift of the equil. in favor of I. Whereas in the presence of Hg, polymerization is always depressed, it remains approx. unchanged on diln. with Ni, owing to mutual compensation of the effects of diln. and of the increased yield. With increasing amt. of Ni, the yield of the catalyst decreases from 91 to 63%. On diln. with PhMe, the same degree of dehydrogenation as at the same degree of diln. with Ni should be expected. This is fairly well confirmed in expts. contg. up to 70 mole % PhMe but in the range of 70-85 mole % PhMe, the exptl. degrees of hydrogenation are lower by about 12% than the calcd. figures. This discrepancy is attributed to a deactivation of the catalyst by large amounts of PhMe, probably by its conversion products; thus, PhMe is not altogether an indifferent diluent. Nor are CO_2 and H_2O inert diluents. The former can react according to $\text{CO}_2 + \text{C} \rightarrow 2\text{CO}$ and $\text{CO}_2 + \text{Hg} \rightarrow \text{CO} + \text{H}_2\text{O}$, and H_2O reacts according to $\text{Hg} + \text{C} + \text{CO}_2 + \text{H}_2 \rightarrow \text{HgO} + \text{CO} + \text{H}_2\text{O}$. At equal degrees of diln., the yield of I with H_2O are 0.4 to 0.5 the yield with CO_2 .

D Chem

✓ Catalytic alkylation of ammonia by halides of alkanes and cyclanes. II. Effect of the nature of the halogen and its position in the molecule on the amination of alkyl halides.
V. A. Nekrasova and N. I. Shunkin. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1952, 609-600 (Engl. translation).—See C.A. 47, 4835h.

H. L. H.

General Chem. - 5

CH
 Poisoning of platinum catalysts with low contents of the active metal on a carrier, in dehydrogenation catalysis. Kh. M. Minachev, N. I. Shufkin, and I. D. Roashdestvenskaya (Inst. Org. Chem. Acad. Sci. U.S.S.R., Moscow). *Izvest. Akad. Nauk S.S.R. Otdel. Khim. Nauk* 1952, 803-15.—Dehydrogenation of cyclohexane was run, without externally fed H₂, on 2.5 g. of catalysts contg. 3.21, 1.41, 0.63, and 0.27% Pt on activated C, reduced in H₂ 4 hrs. at up to 310°; the feed rate of cyclohexane in all expts. was 0.6 ml./5 min. (space velocity 0.65 l./l. catalyst/hr.). In the absence of poisons, the gas evolved in the temp. range 473-639° was 98.5% H₂ over the whole duration of the runs (45-100 min.); consequently, the amt. (ml.) of H₂ evolved is taken as the rate \dot{x} of the reaction. From rectilinear plots of $\log \dot{x}$ (degree of conversion) as a function of $1/T$, the activation energies E , in the above order of decreasing Pt contents, are 14.8, 15.2, 17.4, 18.1 kcal./mole, and the frequency factors $A_0 = 3.38 \times 10^6, 1.66 \times 10^6$ (?), $8.62 \times 10^6, 1.07 \times 10^6$. Evidently, the no. of active centers increases with decreasing amt. of Pt in the catalyst, whereas their activation energy increases. Poisoning was done at 200°; each expt. was continued only as long as there was no H₂S in the outgoing gas, i.e. as long as there was an assurance that all the org. S introduced was held by the catalyst. The poisons used were: PrSH, iso-AmSH, thiophene, thiophane, Et₂S, (iso-Am)₂S, H₂S, and CS₂; they were in-

troduced by portions of 0.0005 g./2.5 g. (10 ml.) catalyst. With 3.21% Pt, the 1st 3 portions of any of these poisons did not practically change its \dot{x} , but each following portion reduced the activity by about 6-10%; however, the activity remained significant even after 11 portions. The different poisons have about the same action, except that on 3.21% Pt, PrSH, iso-AmSH, and thiophene, lower the activity more rapidly than do the other poisons. The degree of poisoning with any of these org. sulfides is about the same as with H₂S, at equal S contents; this suggests that possibly the catalyst splits H₂S off each of these org. sulfides, and the actual catalyst poison is H₂S. The amt. of S necessary to exert a poisoning effect is high; 5-7% S (of the wt. of the Pt) is necessary to reduce the activity by 70-80%, which corresponds to 1 atom S/3 atoms Pt. This is true for Pt on C; on other carriers, the same poisoning effect is brought about by relatively smaller amts. of S. Pt on SiO₂ gel is poisoned more easily than is Pt on C, and Pt on ultraporous glass even more easily; 1% Pt on SiO₂ gel is poisoned by 0.0022 g. S, as against 0.0055 g. S for Pt on C. This poisoning effect bears practically only on a decrease of A_0 , with E remaining practically unaffected. Poisoning of 1.08% Pt on porous glass required only 0.0020 g. S. The relatively low susceptibility of Pt on C to poisoning is attributed to its large sp. surface area. The poisoned catalysts showed undiminished catalytic activities at temps. lower than or equal to the temp. at which the poisoning was done; lowered activity was observed only at higher temps. The activation

over

energies of all poisoned catalysts were practically the same as before poisoning; only K_0 is decreased, by a factor of 4.3-22.4. The lattice structure (by x-rays) of the Pt catalysts remains unchanged after the poisoning. The activity of the poisoned Pt on C catalysis can be easily and almost fully restored by passing cyclohexane at 300°. The activity of Pt on SiO₂ gel can be restored only to the extent of 84%, and Pt on porous glass cannot be regenerated at all. Poisoning by CO was investigated on the 1.41% Pt catalyst on C. At 280°, 91.4 ml. CO passed over the catalyst in a mixt. with cyclohexane reduced the activity of the catalyst one-half, and greater amts. of CO brought about a further lowering by 10-12%; still greater amts. had no further effect. At 300°, only the 1st portion of poison is effective. Catalysts poisoned by CO can be easily and fully regenerated by passing small amts. of cyclohexane. N. Thom.

SHUYKIN, N. I.

USSR /Chemistry - Aromatic Hydrocarbons Jan/Feb 52

"Transformations of Methylcyclohexane and Toluene
in Contact With Aluminum Chloride," N. I. Shuykin,
L. M. Feofanova, Inst of Org Chem, Acad Sci USSR

"Tr Ak Nauk, Otdel Khim Nauk" No 1, 1952, pp 137-144

Expts were conducted in the liquid phase at 80°C
and ordinary pressure. In addn to isomerization of
the methyl cyclohexane with reduction of the ring
into dimethyl cyclopentane, a redistribution of the
methyl group occurs to a small deg, resulting in the
formation of dimethyl cyclohexane and cyclohexane.

20810

USSR /Chemistry - Aromatic Hydrocarbons Jan/Feb 52
(Cont'd)

In the action between aluminum chloride and toluene
under analogous conditions, redistribution of the
methyl group occurs, resulting in the formation
of benzene and of a mixt of isomeric xylenes.

20810

ГАРДИН, А. Г., ЛЕВИСОН, И. И.

Styrene

Preparation of styrene by catalytic dehydrogenation of the ethylecyclonexane fraction of Maykop benzine. Izv. AN SSSR Otd. khim. nauk no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress. November, 1952. Unclassified.

SHUYKIN, N. I.

USSR/Chemistry - Petroleum

May/Jun 52

"The Desulfurizing Action of Troshkovo Kaolin."
V.A. Nekrasova, N.I. Shuykin, Inst of Org Chem,
Acad Sci USSR

"Iz Ak Nauk, Otdel Khim Nauk" No 3, pp 489-494

The desulfurization action of Troshkovo kaolin was studied on 3 samples of gasoline which contained sulfur and on mixts of purified gasoline with admixts of propylmercaptan, di-isooamylsulfide, thiophene, and thiophane. Catalysts prep from nonactivated Troshkovo clay were found to

220713

have good desulfurizing capacity at 400°. Heat activation of clay increases its desulfurizing capacity about 3 times. Troshkovo clay removes both aliphatic sulfur compds (mercaptan, sulfides) and sulfur compds with ring structure (thiophane) from gasoline.

220713

May/Jun 52

USSR/Chemistry - Alkylation

"The Catalytic Alkylation of Ammonia by Halogen Derivatives of Alkanes and Cyclanes," V. A. Nekrasova, N. I. Shuykin, Inst of Org Chem, Acad Sci USSR

"Iz Ak Nauk, Otdel Khim Nauk" No 3, pp 495-497

The process was carried out in the gas phase at ordinary pressure (1 atm) with high yields. Magnesium oxide catalysts were found to be the most suitable. The catalysts products, obtained with the above catalyst at 310° from ammonia and 1-chlorobutane, 1-chlorohexane, 1-chloropentane, 220T14

1-chlorooctane, 1-chlorononane, and 1-chlorodecane at a vol rate of 0.2 contained 60, 60.5, 61, 63.0, 77 and 78.6% amines in that order. The effect of the length of C chains in alkyl halides on the amine yield was studied. Increasing the length from C₄ to C₁₀ increases the amine content of the product from 60 to 78.6%. In the amination of chlorocyclopentane, -hexane, and bromocyclohexane over the same catalyst at 340° and nearly the same conditions, the products contained 11.5, 10.2 and 9.7% nitrogen in form of amines.

220T14

SHUYKIN, N. I.

REMKOVICH, N. A., SHUVALIN, N. I.

Amination

Catalytic alkylation of ammonia with halo derivatives of alkanes and cyclanes. Part. 2.
Effect of the nature of the halogen and of its position in the molecule on the amination
of alkyl halides. Izv. Akad. SSSR. Khim. nauk. No. 4, 1952.

Monthly List of Russian Accessions, Library of Congress
December 1952. UNCLASSIFIED.

USSR/Chemistry - Dehydrogenation

Jul/Aug 52

"The Role of Inert Diluents in the Catalytic Dehydrogenation of Ethylbenzene," N. I. Shuykin, I. I. Levitskiy, Inst of Org Chem, Acad Sci USSR

"IZ Ak Nauk SSSR, Otdel Khim Nauk" No 4, pp 592-602

Investigated catalytic dehydrogenation of ethylbenzene at 575° under diln with hydrogen, nitrogen, and toluene as well as without diln. Found that the reaction reaches the stage of thermodynamic equil within a wide range of vol velocities

229712

and that the inert diluents have the effect of displacing the equill point.

229712

SHUYKIN, N. I.

USSR/Chemistry - Liquid Fuels,
Aromatization

Jul/Aug 52

"Poisoning Under Conditions of Dehydrogenation: Catalysis of Platinum Catalysts Having a Low Content of Active Metal on the Carrier," Kh. V. Minchayev, N. I. Shuykin, I. D. Rozhdestvenskaya, Inst of Org Chem, Acad Sci USSR

"Iz Ak Nauk SSSR, Otdel Khim Nauk" No 4, pp 603-615

Found in the dehydrogenation of cyclohexane that the deg of poisoning of the catalysts investigated does not depend on the compn of the sulfur compds
229T13

which are responsible for poisoning: they all act in the same manner and their effect corresponds to that of an equiv amt of H₂S. The amt of organically combined sulfur which produces poisoning of the catalyst is proportional to the amt of platinum contained in the catalyst. Catalysts deposited on different carriers and poisoned by the same agent are regenerated in a different manner.

229T13

SHUYKIN, N.I.

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Catalytic amination of ketones of different structures.
M. A. Ponov, N. I. Shuklin, and O. L. Baranovskaya
Bull. Acad. Sci. USSR, Div. Chem. Sci. 1953, 81-4
(Engl. translation).—See C.A. 48, 3248d. H. L. H.

SHUYKIN, N.I.

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Hydrogenating and dehydrogenating activity of nickel catalysts on different carriers. N.I. Shuykin, Kh. M. Minachev, and L. M. Profanova. Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci. 1953, 85-90 (Engl. translation). See C.A. 47, 6234c. H. L. H.

SHUJKIN, N.I.

Chemical Abst.
Vol. 48 No. 6
Mar. 25, 1954
Organic Chemistry

Catalytic amination of ketones of different structures.
M. A. Popov, N. I. Shuklin, and O. L. Baranovskaya.
Izv. Akad. Nauk S.S.R., Oddel. Khim. Nauk 1953,
91-92; cf. *C.A.* 48, 9405c.—Reductive amination of ketones
over Pt-silica gel yields only primary amines, the best temp.
being 170-240°. Sym. aliphatic ketones give better yields
than unsym. ketones. Et₂CO gave 34% amine in the
condensate, Pr₂CO gave 41.4%, MeEt₂CO 22.9%, Me-
COC₂H₅ 16.8%, and cyclopentanone 11.3%, in the best
runs. The ketone vapors were passed along with excess H
and NH₃ through a tube containing 82 ml. platinized silica gel
and the effluent was condensed. The products b.p., d₂₅,
n_D²⁰ obtained were: 3-amino-*heptane*, b.p. 80°, 0.7470, 1.4003;
4-amino-*heptane*, b.p. 132-40°, 0.7687, 1.4178; 2-amino-
butane, b.p. 01-3°, 0.7165, 1.3948. Cyclopentanone gave
poor results because of much tar formation. G. M. K.

SHULKIN, N.I.

Contact-catalytic transformations of five- and six-membered cyclanes under conditions of elevated temperature and pressure of hydrogen. N. I. Shulkin, N. G. Berdnikova, and S. S. Novikov. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.*, 1953, 243 (Engl. translation).—See C.A. 48, 5810f.

H. L. H.

SHVYKIN, N.I.

✓ Contact polymerization of ethylcyclopentene in vapor phase.
N. I. Shvakin and S. S. Novikov. Bull Acad. Sci. U.S.S.R.,
Div. Chem. Sci. 1953, 251-3 (Engl. translation). See C.A.,
48, 6810i. H. L. H. [initials]

SHUYKIN, N.I.

Chemical Abstracts
May 25, 1954
Organic Chemistry

Inst. Org. Chem., AS USSR

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Contact Isomerization of ethylcyclopentane in vapor phase.
N. I. Shuykin and S. S. Novikov. Izvest. Akad. Nauk S.S.R., Otdel. Khim. Nauk 1953, 278-81.—Ethylcyclopentane (40.4 g.) passed in a dry HCl stream over a catalyst contg. 40% AlCl₃ (prepn. described below) at 115-20° at a

space velocity 0.3 gave 43.2 g. catalyzate, which after dehydrogenation on Pt-C at 300° yielded 92% MePh, indicating the original formation of 98% methylcyclohexane; the remainder was unchanged material with traces of possibly dimethylcyclopentanes. At 145° only 52% isomerization occurs. The methylcyclohexane fraction of Maikop gasoline (b. 97-103°) freed of 6-membered components and treated similarly at 120°, with the AlCl₃ content of the catalyst ranging from 9% to 33%, showed progressively greater isomerization, as indicated by the yield of MePh after dehydrogenation, from 30% to 42%. Further increase of AlCl₃ in the catalyst to 43% gave no further significant rise of the extent of isomerization. The catalyst showed a sharp decline of activity after passage of some 225 ml. of the gasoline fraction. The methylcyclohexane fraction of Emba gasoline (b. 97-103°) freed of 6-membered cyclanes by dehydrogenation over Pt-C and treatment with oleum, was treated similarly in various gas streams; 25-6% conversions were obtained with H₂, CO₂, N₂, or HCl gas phases. However these conversions declined to 1-2% with a 2nd 75-ml. portion of gasoline in all instances except that involving HCl. The catalyst was prep'd. by covering AlCl₃ with a layer of dry activated C (8-10 mm. grains) and subliming the AlCl₃ slowly into the C layer at 140-5° for 40-5 min. with careful stirring.

G. M. Kosolapoff

16-12-54

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SHUYKIN, N. I.

Theoretical and experimental yields of styrene in the catalytic dehydrogenation of ethylbenzene. N. I. Shuykin and L. I. Levitskii. Izvest. Akad. Nauk S.S.R., Otdel. Khim. Nauk, 1955, 403-8.—The catptl. dehydrogenation of EtPh over Al-Cr-Mo and Al-V catalysts was compared with the data by previous workers (cf. Wenner and Dybdal, C.A. 42, 3722f). On the basis of thermodynamic data the equil. dehydrogenation of EtPh can be estd. The theoretical yield of styrene rises from 5.7% at 427° to 52.4% at 627°. Over an Al-Cr-Mo catalyst the yield actually rises from 3.7% at 424° to 30.8% at 627°, while the theoretical and the exptl. yields differ correspondingly by 1.9 and 21.0% under these conditions. The activity of an Al-V catalyst remains low even at 523°, but the results obtained almost do not differ from those obtained under similar conditions (525-75°) over an Al-Cr-Mo catalyst. Expts. in which the equil. character has been established (cf. C.A. 46, 10818f) show independence of the actual yields of styrene on the space velocity of the reaction mass (cf. W. and D., C.A. 42, 3722f). The deviation observed between the exptl. and theoretical yields can be directly ascribed to the loss of catalyzate caused by side reactions and cannot be ascribed merely to lack of equil. G. M. Kosolapoff

SHUJKIN, N.I.

USSR.

✓ Transformations of individual hydrocarbons in contact
with activated Troshkovsk clay. I. Transformations of
cyclohexene, 4-methyl-1-cyclohexene, and 1-octene. N. I.
Shukin and E. A. Timofeeva. *Bull. Acad. Sci. U.S.S.R.*
Div. Chem. Sci. 1953, 807-16 (Engl. translation).—See C.A.
48, 126980. H. L. H.

SHUKIN, N.I.

Transformations of individual hydrocarbons in contact with activated Troshkovsk clay. I. Transformations of cyclohexene, 4-methyl-1-cyclohexene, and 1-octene. N. I. Shukin and L. A. Timofeeva Inst. Org. Chem. Moscow.

Zh. Tekhn. Nauk S.S.R., Otdel. Khim. Nauk 1953, 678-88; cf. C.A. 46, 4207e. Contact of cyclohexene, 4-methylcyclohexene and 1-octene with activated (by H₂SO₄) Troshkovsk clay at 45° results in redistribution of H with formation of aromatic and satd. hydrocarbons and partial isomerization of 6-membered cyclanes into 6-membered ones. Formation of aromatic compds. is accompanied by alkylation. 1-Octene undergoes dehydrocyclization. The hydrocarbons also undergo cracking. Cyclohexene gave 35% methylcyclopentane, 41% aromatic hydrocarbons (free of C₆H₆ and contg. but little MePh), 14% coke gas, and 10% unknown hydrocarbons, b. 71.5-160°. 4-Methylcyclohexene gave 27% 1,2- and 1,3-dimethylcyclopentanes, 1% C₆H₆, 7% MePh, 2% xylenes and EtPh, 26-9% aromatic hydrocarbons, b. 149-302°, 13% coke gas, 7-9% isomers of hexane, methylcyclopentane, and other satd. hydrocarbons, and 11-13% unsatd. hydrocarbons. 1-Octene gave 15% C₆-alkanes, 2% C₆H₆, 6% MePh, 9% aromatic hydrocarbons, b. 124-97°, 39% coke gas, 5% unsatd. hydrocarbons, b. above 124°, 8% C₆-alkenes, 12% 2-butene, 1% isopentane, and 6% n-pentane. G. M. Kosolapoff

SHUYKIN, N. I.

U.S.S.R.

In memory of Academician Nikolai Dmitrievich Zelinskii,
A. N. Nesmeyanov, A. V. Topchlev, B. A. Karanikh, and
N. I. Shuklin. Bull. Acad. Sci. U.S.S.R. Div. Chem. Sci.
1953, 683-90 (Engl. translation). — See C.A. 48, 4268h.
H. L. H.

SHUYKIN, N.I.

Chemical Abst.
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Apparatus, Plant Equipment,
and Unit Operations

"In memory of academicians Nikolai Dmityrov, P. V. Krasov, A. V. Trochka, B. A. Karanish, and N. I. Shul'kin. Izdat. Akad. Nauk S.S.R., Otdel. Khim. Nauk 1953, 735-74. —Obituary (1881-1953) with portrait. O. M. Kostapoff"

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SHUYKIN, N. I.

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USSR:

✓ Contact-catalytic transformations of alkanes of normal structure at elevated temperatures and pressure of hydrogen. N. I. Shuykin, N. G. Berdinskaya, and S. S. Novikov. *Bull. Acad. Sci. U.S.S.R., Div. Chem. Sci.* 1955, 770-86 (Engl. translation).—See C.A. 48, 44215. H. L. H.

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